

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 – 6. (Cancelled).

7. (Withdrawn) A method of fabricating an ink jet printhead chip having a wafer substrate, a CMOS drive circuitry layer positioned on the wafer substrate and a plurality of nozzle arrangements positioned on the wafer substrate and the CMOS drive circuitry layer, each nozzle arrangement having nozzle chamber walls and a roof wall that define a nozzle chamber and an ink ejection port in the roof wall and a micro-electromechanical actuator connected to the CMOS drive circuitry layer the actuator having at least one thermal bend actuator that is positioned to act on ink in the nozzle chamber to eject the ink from the ink ejection port on receipt of a signal from the drive circuitry layer, the signal directly causing thermal bending of the actuator, the method comprising the steps of:

depositing between 2 microns and 15 microns of a first sacrificial material on the CMOS drive circuitry layer to define a deposition area for a layer of actuator material,

depositing said layer of actuator material on said deposition area,

etching the layer of actuator material to form at least part of each micro-electromechanical actuator, and

forming the nozzle chamber walls and roof wall by at least one of a deposition and an etching process.

8. (Withdrawn) A method as claimed in claim 7, which includes the step of depositing between 5 microns and 12 microns of the first sacrificial material on the CMOS drive circuitry layer.

9. (Withdrawn) A method as claimed in claim 8, which includes the step of depositing between 6 and 10 microns of the first sacrificial material on the CMOS drive circuitry layer.

10. (Withdrawn) A method as claimed in claim 7, in which the step of forming the nozzle chamber walls and roof wall of each nozzle arrangement includes the steps of
depositing a second sacrificial material on the layer of actuator material to define a deposit area for at least part of the nozzle chamber walls and the roof wall,
depositing a structural material on the deposit area, and
etching the structural material to form the at least part of the nozzle chamber walls and the roof wall.
11. (New) An inkjet printhead chip comprising:
a wafer substrate,
a CMOS drive circuitry layer positioned on the wafer substrate, and
a plurality of nozzle arrangements, each having a chamber for containing ink, an ink ejection port and a thermal bend actuator electrically connected to, and spaced from, the CMOS drive circuitry layer such that actuation of the thermal bend actuator causes it to move relative to the wafer substrate and thereby eject ink through the ink ejection port; wherein,
in its quiescent state, the thermal bend actuator is spaced between 2 microns and 15 microns from the CMOS drive circuitry layer.
12. (New) An inkjet printhead chip as claimed in claim 11 wherein the thermal bend actuator is spaced between 5 microns and 12 microns from the CMOS drive circuitry layer.
13. (New) An inkjet printhead chip as claimed in claim 12, wherein the thermal bend actuator is spaced between 6 microns and 10 microns from the CMOS drive circuitry layer.
14. (New) An inkjet printhead chip as claimed in claim 11 wherein the chambers are defined by four chamber walls extending normal to the CMOS drive circuitry layer and a roof wall extending between the distal edges of the chamber walls such that the ink ejection port is formed in the roof wall, and the chamber is generally rectangular in plan and transverse cross section, and thermal bend actuator is planar, rectangular and cantilevered in the chamber with its free end between the CMOS drive circuitry layer and the ink ejection port and its fixed end anchored to electrodes connecting it to the CMOS drive circuitry layer, the thermal bend actuator incorporating heating circuitry for heating by signals received from the CMOS drive circuitry layer, to displace the free end towards the ink ejection port as a

result of differential expansion and, when the signal is terminated, the free end is displaced away from the ink ejection port as a result of differential contraction.

15. (New) An ink jet printhead chip as claimed in claim 11 wherein the chambers are defined by four chamber walls extending normal to the CMOS drive circuitry layer and a roof wall extending between the distal edges of the chamber walls such that the ink ejection port is formed in the roof wall, and the chamber is generally rectangular in plan and transverse cross section, and thermal bend actuator is planar, rectangular and cantilevered in the chamber with its free end between the CMOS drive circuitry layer and the ink ejection port and its fixed end anchored to electrodes connecting it to the CMOS drive circuitry layer, the thermal bend actuator comprises an actuator arm of a conductive material that is configured to define a heating circuit that is electrically connected to the CMOS drive circuitry layer and is configured to deflect towards the wafer substrate as a result of differential expansion when an electrical signal is received from the CMOS drive circuitry layer, and the roof wall of the nozzle chamber and at least part of the nozzle chamber walls connected to the actuator arm, so that, when the actuator arm is deflected towards the wafer substrate, ink is ejected from the ink ejection port defined in the roof wall.

16. (New) An ink jet printhead that includes a plurality of printhead chips as claimed in claim 11.